

## **Criteria for Mechanical Ventilator Triage Following Proclamation of Mass-Casualty Respiratory Emergency**

**Satellite Conference and Live Webcast  
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Produced by the Alabama Department of Public Health  
Video Communications and Distance Learning Division

## **Faculty**

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## **Healthcare Sector**

- Developed to serve as the Guidance Body for Pandemic Influenza and All-Hazards Planning
- Conference call format for convenience
- Collected issues from healthcare organizations across the state
- Reivew board evaluates all policies from the committee

## **Develop Ventilator and Oxygen Protocols**

- Major issue to healthcare planning
  - [TJC-Standard EM.01.01.01, EP 6 & 8; EM.02.02.01, EP 2 & 3; EM.02.02.01, EP10; EM.02.02.03, EP 1-6]
- Central to altered standards of care
- Only enacted during a mass casualty event proclaimed as a public health emergency by the Governor



## **Criteria for Mechanical Ventilator Triage Following Proclamation of Mass-Casualty Respiratory Emergency**

- “Offered as a template for inclusion in hospital disaster plan/policy following declaration of regional, statewide, or national public health respiratory emergency. [Example: Pandemic Avian Influenza]”

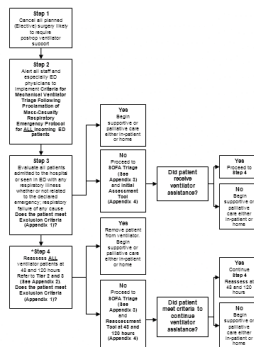
## Assumptions

- Mass casualties resulting from respiratory failure illness of sufficient volume to quickly exhaust available mechanical ventilator resources

## Assumptions

- Suggested implementation triggers, one or in combination
  - Proclamation of a state of public health emergency by the Governor
  - Activation of the Federal Pandemic Flu Disaster Plan
  - Other triggers identified as appropriate by individual hospital disaster planners

Implementation Steps Following Emergency Statewide Proclamation by the Governor



## Step 1

- Cancel all planned (Elective) surgery likely to require post-op ventilator support

## Step 2

- Alert all staff and especially ED physicians to implement Criteria for Mechanical Ventilator Triage Following Proclamation of Mass-Casualty Respiratory Emergency Protocol for ALL incoming ED patients

## Step 3

- Evaluate all patients admitted to the hospital or seen in ED with any respiratory illness whether or not related to the declared emergency; respiratory failure of any cause
  - Does the patient meet Exclusion Criteria (Appendix 1)?

## Appendix 1 Exclusion Criteria

- Cardiac arrest
- Severe trauma
- Dementia
- Metastatic malignancy
- Severe burn

## Appendix 1 Exclusion Criteria

- End stage organ failure
  - Pulmonary
  - Cardiac
  - Renal
  - Hepatic
  - Neurological
  - Hematological and cancer
  - Immunological

## Appendix 2

- The tier system in Appendix 2 is supporting data for the Exclusion Criteria
  - TIER 1
    - Detailed criteria for NOT offering mechanical ventilator support for patients
    - Supports exclusion criteria

## Appendix 2

- TIER 2
  - Criteria for withdrawal of ventilator support
- TIER 3
  - Specific protocols agreed upon by guideline development committee within facility's EOP

## Appendix 2

- Note: Nothing in this ventilator triage protocol shall preclude ventilation by hand provided the appropriate resources are available

## Appendix 3 SOFA Triage Tool

Appendix 1: Scoring criteria for the Sequential Organ-Failure Assessment (SOFA) score\*

Variable	Score				
	0	1	2	3	4
Pao <sub>2</sub> /Fio <sub>2</sub> , mm Hg	> 400	≤ 400	≤ 300	≤ 200	≤ 100
Platelet count, × 10 <sup>9</sup> /L	> 150	≤ 150	≤ 100	≤ 50	≤ 20
Bilirubin level, mg/dL (μmol/L)	< 1.2 (< 20)	1.2-1.9 (20-32)	2.0-5.9 (33-100)	6.0-11.9 (101-203)	> 12 (> 203)
Hypotension†	None	MAP < 70	Dop ≤ 5	Dop > 5 Epi ≤ 0.1 Norepi ≤ 0.1	Dop > 15 Epi > 0.1 Norepi > 0.1
Glasgow Coma score	15	13-14	10-12	6-9	< 6
Creatinine level, mg/dL (μmol/L)	< 1.2 (< 106)	1.2-1.9 (106-168)	2.0-3.4 (169-300)	3.5-4.9 (301-433)	> 5 (> 434)

Note: Pao<sub>2</sub> = partial pressure of arterial oxygen; Fio<sub>2</sub> = fraction of inspired oxygen; MAP = mean arterial blood pressure, in mm Hg.  
 \*Adapted, with permission, from Ferreira FL, Bota DP, Bross A, et al. Serial evaluation of the SOFA score to predict outcome in critically ill patients. JAMA 2001;286:2754-6. Copyright © 2001, American Medical Association. All rights reserved.  
 †Dop (dopamine), epi (epinephrine) and norepi (norepinephrine) doses in μg/kg per min.

## Appendix 4 Initial Assessment Tool

Triage Code	Criteria	Action or Priority
<b>GREEN</b>	No respiratory failure No need for ventilator support	Begin standard treatment home or inpatient non-ICU
<b>YELLOW</b>	Single Organ (Lung) failure SOFA score ≤ 7	Intubate and admit to ICU for aggressive therapy
<b>RED</b>	SOFA score 8 - 11	If resources are available, intubate and admit to ICU for aggressive therapy. If resources are exhausted move to BLUE level.
<b>BLUE</b>	Exclusion Criteria met OR SOFA score > 11	Begin supportive or palliative care either inpatient or home

## Step 4

- A last resort measure to be employed by the healthcare facility only when all other resources are exhausted by re-evaluation of the following
  - Suppliers, partner healthcare facilities, and public health through AIMS

## Step 4

- Reassess ALL ventilator patients at 48 and 120 hours
- Refer to Tier 2 and 3 (See Appendix 2)
  - Does the patient meet Exclusion Criteria (Appendix 1)?

## Appendix 4 Reassessment Tool for 48 and 120 Hours

Triage Code	Criteria	Action or Priority
<b>GREEN</b>	Able to wean off the ventilator	Discharge from ICU (Critical Care)
<b>YELLOW</b>	Single Organ (Lung) failure SOFA score ≤ 7	Continue aggressive ventilator support.
<b>RED</b>	SOFA score 8-11 (decreasing) and clinically improving – Continue aggressive therapy	If resources are available, continue ventilator care and support. If resources are exhausted move to BLUE level.
<b>BLUE</b>	Exclusion Criteria met OR SOFA score > 11	Extubate. Discharge from ICU (Critical Care) and begin palliative care.

## Additional Information

- Visit the ADPH Center for Emergency Preparedness website
- Visit the Healthcare Sector Committee webpage
- Download the Final Draft of the Criteria for Mechanical Ventilator Triage Following Proclamation of Mass-Casualty Respiratory Emergency

## Questions?